

REMARKS/ARGUMENTS

Claims 1 – 11 and 21 – 25 are pending in the present application and are presented for reconsideration in view of the foregoing amendments and the following remarks. Claims 12 – 20 were previously canceled.

In the outstanding Office Action, the Examiner rejected claims 1 – 4 and 21 – 24 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,323,608 to Honma (hereinafter referred to as “the Honma ‘608 patent”) in view of U.S. Patent No. 4,576,800 to Retallick (hereinafter referred to as “the Retallick ‘800 patent”); rejected claims 6 – 11 under 35 U.S.C. §103(a) as being unpatentable over the Honma ‘608 patent in view of the Retallick ‘800 patent and further in view of U.S. Patent No. 5,177,960 to Hitachi, et al. (hereinafter referred to as “the Hitachi et al. ‘960 patent”) and either German Reference No. DE 3,844,350 (hereinafter referred to as “the German ‘350 reference”) or U.S. Patent No. 5,384,100 to Freund (hereinafter referred to as “the Freund ‘100 patent”) or U.S. Patent No. 4,665,051 to Nonnenmann (hereinafter referred to as “the Nonnenmann ‘051 patent”); and rejected claim 5 under 35 U.S.C. §103(a) as being unpatentable over the Honma ‘608 patent in view of the Retallick ‘800 patent and further in view of U.S. Patent No. 5,374,402 to Hitachi et al. (hereinafter referred to as “the Hitachi et al. ‘402 patent”).

By this Response and Amendment,
the Examiner’s rejections have been traversed; and
independent claim 25 has been newly added.

Support for the addition of new claim 25 can be found on page 11, lines 12 – 23 of the originally filed application and in originally filed drawing figure 3. Therefore, it is respectfully submitted that no new matter within the meaning of 35 U.S.C. §132 has been introduced to the

present application.

Rejections Under 35 U.S.C. §103(a)

To establish a *prima facie* case of obviousness, the Examiner must establish: (1) some suggestion or motivation to modify the references; (2) a reasonable expectation of success; and (3) the prior art references teach or suggest all of the claim limitations. *Amgen, Inc. v. Chugai Pharm. Co.*, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 USPQ 494, 496 (CCPA 1970).

1. Rejections of Claims 1 – 4 and 21 – 23

The Examiner rejected claims 1 – 4 and 21 – 23 as being unpatentable over the Honma '608 patent in view of the Retallick '800 patent.

Response

By this Response and Amendment, Applicants respectfully traverse the Examiner's rejections because the combination of the Honma '608 patent with the Retallick '800 patent does not render the presently claimed invention obvious.

Independent claim 1 recites “[a] catalyst converter comprising: a tubular member having an inner wall; a carrier contained in the tubular member, the carrier including a catalyst carrier sheet folded successively back into a series of sheets superposed with each other, respective one of the sheets extending transversely between a point and another point on the inner wall; and an engaging plate extending across the *respective* one of the sheets, the engaging plate being *engaged with the series* of sheets.” *Present Application*, claim 1, *emphasis added*.

One of the advantages obtained by the presently claimed invention is the suppression, by the engaging plate, of mutual separation and shift of neighboring sheets, particularly in the central area of the carrier. *Present Application*, page 5, lines 11 – 20. Figure 4 of the originally filed application is an example of an engaging plate that can be used in an embodiment of the presently claimed invention. Figure 4 shows that the mutual separation (distance between each of the carrier sheets 5-i) is maintained by tooth portion 7, whereby the edges of the carrier sheets 5-i are in contact with recesses between the tooth portions 7 of the engaging plate.

The Honma '608 patent discloses that a flat sheet 20 and a wavy sheet 18 are stacked and rolled up together and that spacing between flat sheets does not enlarge due to exhaust-gas, *see the Honma '608 patent*, fig. 2 and col. 3, lines 30 – 35 (the corrugated vent sheet 18 is rolled up with the partition sheet 20 to divide the exhaust passageway of the muffler). The Honma '608 patent also discloses a retaining member 16 for preventing the core from moving in the axial direction. *See the Honma '608 patent*, col. 4, lines 47 – 54.

The Retallick '800 patent discloses a catalytic converter having a honeycomb catalyst that is formed by folding a strip of metal back and forth upon itself. The honeycomb catalyst includes corrugations that are positioned so as to maintain spacing between the layers of the folded strip. *See the Retallick '800 patent*, col. 3, lines 40 – 52.

In contrast to the presently claimed invention, the combination of the Honma '608 patent and the Retallick '800 patent fails to disclose, teach or suggest “an engaging plate extending across the *respective* one of the sheets... and engage[d] with the series of sheets,” as recited in independent claim 1. This is partly due to the disclosure in the Honma '608 patent that the retaining member 16 is not disclosed as extending across each of the respective sheets as recited in claim 1. The Honma '608 patent discloses that core 14 (comprised of corrugated bent sheet 18

and partition sheet 20) is rolled into a spiral rather than folded into a “series” of sheets as recited in independent claim 1. Thus, the retaining members 16 disclosed in the Honma ‘608 patent do not extend across each of the corrugations a – c (see attached figure 2 of the Honma ‘608 patent). However, the invention as recited in claim 1 includes an “engaging plate” that engages each of the carrier sheets 5-i. The retaining member 16 disclosed in the Honma ‘608 patent does not engage each of corrugations a – c. Therefore, the combination of the Honma ‘608 patent and the Retallick ‘800 patent fails to disclose, teach or suggest “an engaging plate extending across the respective one of the sheets, the engaging plate being engaged with the series of sheets” to maintain mutual separation of sheets as recited in claim 1.

Moreover, there is no motivation to combine the Honma ‘608 patent with the Retallick ‘800 patent to obtain an “engaging plate” as recited in independent claim 1 of the present application for the additional reason that the Retallick ‘800 patent discloses that *corrugations* in successive layers of the metal strip maintain spacing between the layers. Therefore, as spacing is maintained by the *corrugations* in the Retallick ‘800 patent, there is no need or motivation to use an engaging plate or retaining member 16 as disclosed in the Honma ‘608 patent to maintain spacing between the layers of the metal strip and thus no motivation to combine the Retallick ‘800 patent with the Honma ‘608 patent to obtain an “engaging plate” as recited in independent claim 1.

Furthermore, the Honma ‘608 patent fails to teach using the retaining member 16 as an engaging plate, *see the Honma ‘608 patent*, col. 4, lines 47 – 57 (stating that the retaining members 16 prevent movement of the core in the axial direction due to vibration of the vehicle body). The retaining member disclosed in the Honma ‘608 patent is intended solely as a retaining member to prevent movement of the core in an axial direction rather than as a

separating member and that separation in the Honma '608 patent is maintained by the corrugations, not the retaining members. *See the Honma '608 patent*, col. 3, lines 30 – 35. The invention as recited in claim 1 of the present application includes the feature of “an engaging plate extending across the respective one of the sheets, the engaging plate being engaged with the series of sheets,” which acts as a separating member. Since the Honma '608 patent only teaches to use the retaining member to prevent movement of the core 14 in the axial direction, it would not have been obvious to combine the Honma '608 patent with the Retallick '800 patent because the separation between each of the sheets in both references is maintained by the corrugations of the sheets and not through the use of the retaining member of the Honma '608 patent. As such, the combination of the Honma '608 patent with the Retallick '800 patent fails to teach or suggest “an engaging plate extending across the respective one of the sheets, the engaging plate being engaged with the series of sheets” as recited in independent claim 1.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection to claim 1. Also, as dependent claims contain all of the features of the independent claim from which they depend, Applicants assert that claims 2 – 4 and 21 – 23 are patentable over the cited reference for at least the same reasons as claim 1. Therefore, Applicants also request that the Examiner reconsider and withdraw the rejections to claims 2 – 4 and 21 – 23.

2. Rejections of Claims 6 – 11

The Examiner rejected claims 6 – 11 as being unpatentable over the Honma '608 patent in view of the Hitachi et al. '960 patent in further view of the German '350 reference or the Freund '100 patent or the Nonnenmann '051 patent.

Response

The arguments above with respect to the Honma '608 patent and the Retallick '800 patent are herein incorporated by reference. By this Response and Amendment, Applicant respectfully traverses the rejections to independent claim 1 and to the rejections thereto and the rejections to the claims dependent upon independent claim 1.

The Hitachi et al. '960 patent, the German '350 reference, the Freund '100 patent and the Nonnenmann '051 patent all disclose a tubular catalyst converter having corrugated sheets that are wound and arranged in spiraled layers within an outer tube, similar to the Honma '608 patent. However, none of these cited references accounts for the deficiencies of the Honma '608 patent that a sheet is folded successively back into a series of sheets and "an engaging plate extend[s] across the *respective* one of the sheets," as recited in independent claim 1. Therefore, as this feature is neither taught nor suggested by any of the cited references Applicants respectfully assert that claim 1 is patentable thereover. And, as dependent claims contain all of the features of the independent claim from which they depend, Applicants assert that claims 6 – 11 are patentable over the cited references for at least the same reasons as claim 1.

3. Rejection of Claim 5

The Examiner rejected claim 5 as being unpatentable over the Honma '608 patent in view of the Retallick '800 patent in further view of the Hitachi et al. '402 patent.

Response

By this Response and Amendment, Applicants respectfully traverse the Examiner's

rejection. The arguments above with respect to the Honma '608 patent and the Retallick '800 patent are herein incorporated by reference.

The Hitachi et al. '402 patent discloses a metal-made honeycomb carrier body for an exhaust gas cleaning catalyst. The carrier body is made by placing a planar metal band and a corrugated metal band over each other and wrapping the sheets in a spiral formation. However, the Hitachi et al. '402 patent does not account for the deficiencies of the Honma '608 patent and the Hitachi et al. '960 patent that a sheet is folded successively back into a series of sheets such that "an engaging plate extend[s] across *respective* one of the sheets" as recited in amended independent claim 1. Therefore, as this feature is neither taught nor suggested by any of the cited references Applicants respectfully assert that claim 1 is patentable over the cited references. And, as dependent claims contain all of the features of the independent claim from which they depend, Applicants assert that claim 5 is patentable over the cited references for at least the same reasons as claim 1. Therefore, Applicants request that the Examiner reconsider and withdraw the rejection to claim 5.

MISCELLANEOUS

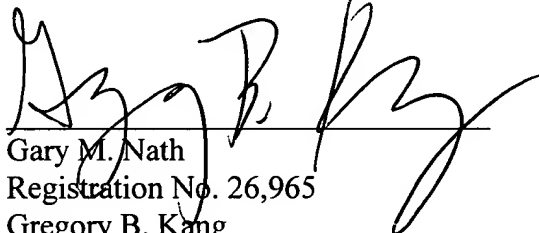
Newly added claim 25 is asserted to be patentable over the cited prior art for at least the reason that there is no motivation to combine the Honma '608 patent with the Retallick '800 patent to obtain "an engaging plate extending across the respective one of the sheets... [and] engaged with the series of sheets," as recited in independent claim 25. Thus, as this feature is neither disclosed, taught, nor suggested by the prior art references, alone or in combination, independent claim 25 is neither anticipated nor rendered obvious thereby.

CONCLUSION

In light of the foregoing, Applicants submit that the application is now in condition for allowance. If the Examiner believes the application is not in condition for allowance, Applicants respectfully request that the Examiner contact the undersigned attorney if it is believed that such contact will expedite the prosecution of the application.

In the event this paper is not timely filed, Applicants petition for an appropriate extension of time. Please charge any fee deficiency or credit any overpayment to Deposit Account No. 14-0112.

Date: April 19, 2005
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